

Important Advances in Clinical Medicine

Epitomes of Progress -- Plastic Surgery

The Scientific Board of the California Medical Association presents the following inventory of items of progress in Plastic Surgery. Each item, in the judgment of a panel of knowledgeable physicians, has recently become reasonably firmly established, both as to scientific fact and important clinical significance. The items are presented in simple epitome and an authoritative reference, both to the item itself and to the subject as a whole, is generally given for those who may be unfamiliar with a particular item. The purpose is to assist the busy practitioner, student, research worker or scholar to stay abreast of these items of progress in Plastic Surgery which have recently achieved a substantial degree of authoritative acceptance, whether in his own field of special interest or another.

The items of progress listed below were selected by the Advisory Panel to the Section on Plastic Surgery of the California Medical Association and the summaries were prepared under its direction.

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Craniofacial Osteotomy

DEFORMITIES OF THE CRANIOFACIAL skeleton, previously considered untreatable, are now partially amenable to surgical reconstruction. Techniques have been developed for correcting hypertelorism and maxillary malposition frequently associated with many congenital anomalies or traumatic injuries. These complex problems require a multidisciplinary team approach. Considerable preoperative planning by the plastic surgeon, neurosurgeon, ophthalmologist, and orthodontist

is essential. In the most severe cases the treatment of ocular hypertelorism requires a combined cranial and facial approach.

The cranial facial operation may involve resection of the cribriform plate or ethmoid sinus as well as osteotomy through the orbits, anterior cranial fossa, zygoma and maxilla. For example, patients with Crouzon's disease often have a severe degree of maxillary hypoplasia. The underdevelopment of the orbital floor and rim may lead to severe degrees of proptosis that produce a grotesque appearance and leave the cornea extremely vulnerable. They are treated by a combination of midfacial osteotomy, bone grafts, silastic implants and soft tissue plastic surgery.

Mandibular osteotomy, as routinely used in

the treatment of prognathism or retrognathism, may be combined with craniofacial osteotomy in order to obtain more desirable occlusion and facial proportion. The osteotomy and dental occlusion are based on accurate preoperative dental models and facial cephalometrics. There are many alternative osteotomies, vertical, horizontal and sagittal, the type being dependent upon the specific clinical situation and the preference of the surgeon.

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Subcutaneous Mastectomy

THE INDICATIONS for subcutaneous mastectomy are: severe cystic disease, with or without frequent biopsy; unremitting mastodynia; fibrous diseases of the breast; positive family history of breast cancer with progressive nodularities; and histological examination revealing intraductal disease or sclerosing adenosis.

Subcutaneous mastectomy entails extirpation of the mammary gland with its tail, while preserving the skin and nipple. The breast is then reconstructed by suitable prosthesis. The operation can be precarious. If the circulation of the skin brassiere and nipple are compromised, necrosis can occur, precluding esthetic reconstruction of the breast.

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Important Advances in Microsurgery

EXPERIMENTAL AND CLINICAL microsurgery has progressed on several fronts in the past year. Furnas was able to achieve a 90 percent immediate success rate with the replanting of legs in puppies. He used these animals to study bone growth, which was found to be almost normal. Information of this type is of basic importance, in the light of proven feasibility of extremity replantation in man. Seven of the patients in 60 documented cases to date were under seventeen years of age. O'Brien, Lendvay, and Owen of Australia reported remarkable success replanting traumatically amputated digits. Their results parallel those of the mainland Chinese, who claim to have successfully replanted 40 digits in 43 attempts. McKee has transplanted a segment of rib by microvascular anastomosis to reconstruct defects in the mandible in both dogs and humans. Kaplan and others are developing techniques for outlining flaps in humans for immediate transplantation for reconstructive purposes. Buncke and McLean have explanted a segment of the omentum from the abdomen to the scalp for total ear reconstruction in the dog, and to fill a 9- by 10-inch soft tissue defect of the scalp in one human case. The omental vessels were anastomosed to the superficial temporal vessels. A free skin graft was placed over the transplanted omentum and took without problem, creating in effect a prefabricated laminated flap.

Several companies are now marketing inexpensive, light and mobile binocular operating microscopes that provide seven to ten diameters magnification. With these simplifications in technique and added interest in the field, immediate tissue transplantation by microvascular anastomosis will undoubtedly continue to expand.

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